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Crop Varieties and Seed Outlook for 1969

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how much it will cost you to use your own plow. You estimate it will last 8 years and trade in for $200 when the plow is replaced. Local loan rates are 7 percent. By methods described, you can figure fixed and operating costs. (See Table 1 for computation method.)

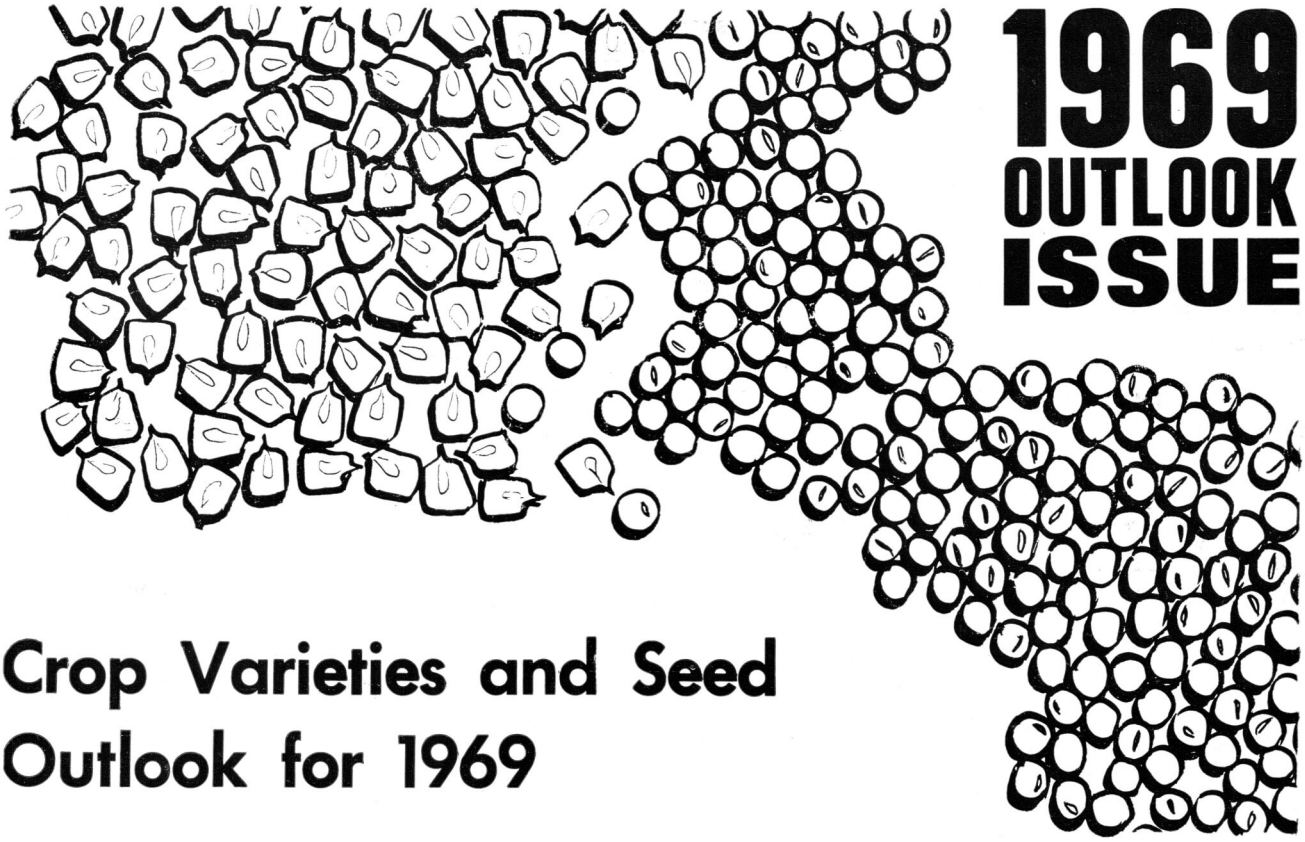
Now divide your annual costs of ownership by acres you plow each year: $307.50 ÷ 400 acres, to get your cost per acre, 77c. The dealer's rental rate at $1.25 per acre is probably about right because the shares would need to be replaced after you finished your fall plowing.

Rule-of-Thumb Example

The rule of thumb provides an estimate of all costs, both fixed and operating (including labor), on an annual basis. With reasonable caution it can be used as a rapid method of determining annual, hourly or per-acre expenses.

Consider this example: You plan to raise 375 acres of corn and to field shell the crop. The stand and fertilizer level are for 125 bushels per acre and, after harvest losses, you hope to bin 115 bushels. No soybeans or small grain will be planted. A neighbor will combine your corn for $6 per acre plus 2c per bushel. This will cost you $8.30 per acre for custom work. Would it pay you to own a combine with 4-row corn head costing $16,000 to shell 375 acres of corn?

By the rule-of-thumb method, you figure that your operation would be average for a 4-row corn combine. So, 20 percent x $16,000 = $3,200 per year cost to own and operate the machine. Divide $3,200 by 375 acres and your cost will be about $8.50 per acre. The custom charge is less than your estimate, so ownership would be marginal if you had other uses for your labor and capital. However, owners usually operate their machines more prudently, so you'd probably get 2-3 more bushels of crop into the bin and would cast the balance for ownership. In addition, some value must be put on timeliness which may be a problem if relying on custom work.



1969 OUTLOOK ISSUE

Crop Varieties and Seed Outlook for 1969

by H. E. Thompson

IN 1968, Iowa farmers planted more soybean, oat and forage crop seed than they did the previous year. Corn acreage was down in 1968, but most farmers increased planting rates so the reduction in acreage had little effect upon seed sales.

For 1969, supplies of certified soybean seed are down from a year ago. There should be enough certified soybean seed to plant 25 to 30 per cent of Iowa's soybean acreage in 1969, compared to 38 per cent a year ago.

Hybrid seed corn companies had a good crop in 1968. Seed quality should be excellent. There should be plenty of seed corn available for planting needs. However, some popular new hybrids are already sold out.

Seed supplies of most of the forage crops commonly grown in Iowa are adequate. Supplies of red clover, sweet clover and birdsfoot trefoil are down and this will be reflected in higher prices. While there is plenty of alfalfa seed for 1969,

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some varieties are in short supply.

Prices of seed change each year and 1969 is no exception. Prices for large seeded crops—corn, soybeans, oats, sorghum and sudangrass—will be about the same as a year ago. Seed prices of the small seeded grasses and legumes—alfalfa, tall fescue, bromegrass, timothy and reed canarygrass—also will be about the same as last year.

Red clover and sweet clover will be up about $6 per hundred pounds in 1969. Ladino clover and birdsfoot trefoil will be up $15 to $20, and alsike clover and orchardgrass will be up about $3 per hundred pounds.

Seed prices are not expected to be any lower at planting time than now. Therefore, get your seed order in now while varieties or hybrids you want are still available. While total seed supply should be adequate for needs in 1969, except possibly for sweet clover, some varieties of a number of crops are in short supply.

CORN

In the last few years more good corn hybrids have been available than ever before to Iowa farmers. An even better selection should be offered in 1969. Choosing a hybrid can be frustrating to the individual farmer. Seed firms have information on their hybrids which will help in selecting varieties for your farm. Not all salesmen, however, will understand your specific needs and problems.

The annual Iowa Corn Yield Test Bulletin can help you in choosing a hybrid to fit your needs. Usefulness of this publication has been increased with the addition of widely grown hybrids in each district.

GRAIN SORGHUM

Grain sorghums have a place on many Iowa farms. When conditions are unfavorable for corn—such as especially dry weather or late season planting—grain sorghum is highly competitive. Grain sorghum is not damaged by corn rootworms.

Many farmers could profitably use grain sorghum in a cropping system with corn and soybeans. Such a system could eliminate corn following corn and reduce the corn rootworm problem. Grain sorghum is more likely to compete successfully with corn in western and southern Iowa than in other parts of the state.

Several good early grain sorghum hybrids are now available which should make it a good crop in northwestern Iowa. Before planting grain sorghum, be sure that suitable harvesting, drying, storage and marketing facilities are available. A detailed report on the performance of grain sorghum varieties and hybrids is available at your local extension office.

SOYBEANS

In choosing a soybean variety for top yield, select one that reaches maturity at least 10 days before the average date of killing frost. Varieties suggested below by areas will do this when planted at the normal dates.

Soybeans may be used as a replant crop. In this case, you can choose from a wide selection of varieties which may be planted later than normal and still mature in the remaining frost-free period. Yields from late plantings decrease about 1 per cent for each day after May 31. Write to the department of agronomy at Iowa State University for special suggestions.

For normal planting dates, the following varieties are suggested:

Northern Iowa:

Traverse—A week earlier than Chippewa 64 and yields 1 bushel less. Can be used when planting has been delayed beyond June 1.

Chippewa 64—A high yielding variety maturing nearly a week earlier than Hark but yielding slightly less.

Hark—Best adapted across the northern 2 to 3 tiers of counties. Can be used farther south when early harvest is desired. A high yielding variety in its maturity class and 1 day earlier than A100 and 5 days later than Chippewa 64. Yields about 4 bushels (12 percent) more than Chippewa 64 and A100, is higher in protein and equal to them in oil content. Subject to chlorosis in high pH soils.

Corsoy—Released to certified seed growers in 1968. Best adapted to northern 6 tiers of counties. Similar to Hark in maturity and outyields it by 1½ bushels. Similar to current varieties in protein and oil content. Corsoy has less lodging resistance than Hark and Amsoy, and has a broader leaf canopy than these varieties.

Amsoy—Yields 3 to 5 bushels more than Harosoy and Hawkeye and matures midway between them. Better lodging resistance than Hawkeye or Harosoy. Plant in narrow rows for highest yields if weeds can be controlled.

North-Central Iowa:

Corsoy and Amsoy—See descriptions under northern Iowa.

South-Central Iowa:

Amsoy—See northern Iowa.

Wayne—Matures a week earlier than Clark and outyields it by about 4 bushels per acre. About 14 days later than Amsoy and yields about 1 bushel more.

Calland—Released to certified seed growers in 1969. Best adapted to southern 3 tiers of counties. Matures 2 days later than Wayne and outyields Wayne by more than 2 bushels per acre in southern Iowa. Resistant to Phytophthora root rot. Is resistant to iron chlorosis on high pH soils. Has brown pubescence, yellow seed with black hilum, and a plant shape similar to Wayne.

Southern Iowa:

Amsoy, Wayne and Calland—See south-central Iowa.

Clark—About 1 week later in maturity than Wayne; stands well.

Phytophthora Root Rot Resistant Varieties:

Chippewa 64, Harosoy 63, Hawkeye 63, Clark 63 and Calland—These varieties are resistant to Phytophthora root rot. The "63" and "64" varieties are similar to their counterparts in appearance, maturity, height, lodging, and chemical composition. However, yield has been 1 to 2 bushels below their respective counterparts in Iowa where Phytophthora root rot has not been a problem—except that Chippewa 64 yields slightly higher than Chippewa. Calland is resistant to phytophthora root rot.

SMALL GRAINS

Oat Varieties

The performance of the oat varieties is summarized in Table 1. No disease was serious enough to cause significant yield losses in oats in 1968. While crown rust was prevalent in some areas, yield reduction caused by this disease was localized and low for the state as a whole.

Because stem and crown rust have not seriously reduced oat yields since 1957, farmers may tend to overlook the importance of rust-resistance. However, records show crown rust seriously reduces oat yields in Iowa an average of 1 out of each 3 years.

Barley-Feed Varieties

Liberty and Plains—Both are high yielding, 6-rowed varieties with plump kernels and smooth awns. Plains is early maturing and has short, stiff straw. Liberty is taller, slightly later in maturity and has moderately stiff straw. Both are resistant to stem rust, and Liberty is resistant to mildew.

Barley-Malting Varieties

Larker, Trophy and Dickson—Trophy and Dickson have rough awns and good straw strength. Larker has semi-smooth awns, very plump grain but weaker straw. All three are resistant to stem rust.

Wheat Varieties

Winter wheat generally outyields spring varieties and have given the most consistent performance in southern and southwest sections and along the Missouri River bottomlands.

Winter Wheat Varieties

Gage—High yielding, bearded, early maturing, with short, stiff straw and moderate winter hardiness. Combines good resistance to leaf and stem rust and to loose smut. Moderate resistance to soil-borne mosaic and Hessian fly. Acceptable milling and baking qualities.

Ottawa—High yielding, bearded, brown chaff, medium early maturity. Has moderately short and stiff straw. About like Pawnee in winter hardiness. Resistant to soil-borne mosaic, Hessian fly, and leaf and stem rust.

Scout and Scout 66—High yielding, bearded, early maturing, with only fair straw-strength and winter hardiness. Resistant to stem rust and loose smut. Susceptible to leaf rust and soil-borne mosaic. Good milling and baking qualities.

Spring Sown Wheat Varieties

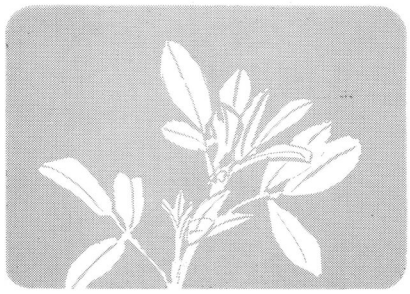
Chris, Manitou, Pembina and Selkirk—Chris and Manitou are high yielding and have the best combined leaf and stem rust resistance of the group. Selkirk has moderate resistance to race 15-B of stem rust and yields well. Pembina is slightly earlier, shorter and more resistant to stem rust than Selkirk.

Flax Varieties

Flax, like barley, is grown largely in northwestern Iowa. A new race of flax rust has altered the flax variety picture in the Midwest. The following varieties performed well in yield trials and are resistant to the new rust.

Bolley, Redwood, Redwood 65, Summit, Noralta, and Windom. All are from mid-early to medium in maturity. All have moderate to excellent resistance to wilt. None are resistant to pasmo, but Bolley and Summit have some tolerance to this disease.

FORAGES



Alfalfa Varieties

Alfalfa is Iowa's most valuable forage crop and is grown annually on 2 million acres. High yields on Iowa soils depend on adequate amounts of lime, phosphorus, and potassium, plus a favorable distribution of rainfall throughout the growing season. Early cutting, when plants start to bloom, helps insure high quality forage. Use varieties resistant to bacterial wilt to maintain good stands capable of high level performance.

Vernal—Synthetic variety developed in Wisconsin and well-adapted to all parts of Iowa. High yielding with a high degree of wilt resistance and winter hardiness.

522—A 20-clone synthetic developed from Vernal. Has high level of winter hardiness and wilt resistance. Slightly taller, with higher frequency of yellow and light colored flowers than Vernal. Similar to Vernal in forage yield.

525—Developed from Vernal for better seed production. Has high level of winter hardiness and wilt resistance. Equal to Vernal in forage yield.

Progress — Synthetic, developed from Vernal for better seed production. Similar to Vernal in yielding ability and wilt resistance.

DeKalb 123 — A 7-clone synthetic of Vernal origin. Has approximately 1 percent yellow flowers. Comparable to Vernal in growth habit and forage yield.

DeKalb 153 — A synthetic tracing to Vernal, Ranger, Buffalo and Cody. Rather tall in growth habit, flowers blue to purple, no variegation. Yield similar to Vernal.

WL-202—Winter-hardy and wilt resistant synthetic developed from selections from Vernal and Narragansett. Performance similar to Vernal.

Scout—An 8-clone synthetic developed from winter-hardy varieties. Selected for resistance to common leafspot, leafhopper and wilt. Has yielded well in Iowa trials.

Iroquois—Developed in New York from Narragansett and Vernal crosses, backcrossed to Narragansett and selected for wilt resistance and high yield.

Saranac—New York variety developed from crosses of A225 and Flemish varieties backcrossed to Flemish type to attain rapid regrowth habit. Has wilt resistance.

Warrior—Modified DuPuits type with greater winter hardiness and wilt resistance.

Apex—A synthetic of Flemish type origin, with greater winter hardiness than DuPuits and some wilt resistance.

Dawson—Nebraska variety resistant to pea aphid and spotted aphid. Similar to Ranger in winter hardiness and resistance to bacterial wilt. Has produced less forage than Vernal in Iowa.

Cody—Kansas variety having resistance to alfalfa spotted aphid. Similar to Buffalo in yield but not sufficiently hardy for northern Iowa.

Buffalo—Wilt resistant variety developed in Kansas from common alfalfa. Not sufficiently hardy for northern Iowa.

DuPuits—French variety having rapid regrowth and early maturity. Susceptible to bacterial wilt.

FD-100—Improved strain of the Flemish type. Has good color, blooms early and has rapid regrowth. Susceptible to bacterial wilt.

New varieties—Several new varieties, developed in breeding programs of public and private agencies, appear promis-

TABLE 1. Agronomic characteristics and crown rust reactions of oat varieties eligible for certification in 1968.

Variety	Yield	Straw	Test Weight	Reaction to crown rust* 1	2
Early					
Bonkee	Medium	Medium	Medium	S	S
Cherokee	Medium	Medium	Medium	MS	S
Clintford	Medium	Strong	High	R	S
Jaycee	Medium	Strong	Medium	R	S
M3306	High	Weak	High	R	MS
Multiline E68	Medium	Strong	High	R	R
Neal	High	Strong	Low	R	S
Nemaha	Medium	Medium	Medium	MS	S
Nodaway	Medium	Strong	High	S	MS
Taylor	Medium	Medium	Medium	R	S
Midseason					
Garland	Medium	Medium	Medium	R	R
Holden	High	Medium	Medium	R	R
Multiline M68	Medium	Medium	Medium	R	R
O'Brien	Medium	Strong	High	R	MS
Stormont	High	Strong	Low	S	S
Tippecanoe	Medium	Strong	Medium	R	S
Tyler	High	Strong	Medium	R	S
Late					
Portal	High	Medium	Medium	R	R

*R=Resistant; MR=Moderately Resistant; MS=Moderately Susceptible; S=Susceptible. First column gives reaction to older, but still prevalent crown rust races. Second column gives reaction to most common of the newer important races.

ing for Iowa conditions. Some of these are N5-113, N5-114, Embro A-59, WL-210, WL-214, PAT-30 and Titan. Further evaluation of these and other new varieties is underway.

Red Clover Varieties

Red clover acreage in Iowa has declined steadily during the past 15 to 20 years. Basically, this is because farmers recognize the greater yield potential of alfalfa which can be produced more efficiently. However, many farmers in eastern Iowa still favor red clover for short rotations, and approximately 800,000 acres are harvested annually in the state.

Kenland—Developed in Kentucky for resistance to southern anthracnose. Has shown superior performance in forage production over a period of years.

Lakeland—Wisconsin variety resistant to northern anthracnose and downy mildew. Will give superior yields in seasons when northern anthracnose is prevalent.

Pennscott—Variety from Pennsylvania similar in performance to Kenland under Iowa conditions.

Dollard—Canadian variety resistant to northern anthracnose. Superior to Kenland in yield if this disease is prevalent.

LaSalle—Canadian variety developed by compositing Dollard and Ottawa strains. Performs well in Iowa.

Common—Strains of common red clover, especially well-adapted farm strains grown for a number of generations in Iowa or other Corn Belt areas, usually produce good yields. Idaho and southern Canada seed is also considered satisfactory.

Sweetclover

For many years sweetclover was used extensively as a green manure crop. Changes in cropping systems, increased use of commercial fertilizer on corn, and the advent of the sweetclover weevil have caused sharp declines in Iowa sweetclover acreage.

Madrid—Biennial yellow. Produces excellent yields of organic matter and nitrogen in the first year of growth.

Ladino Clover

Ladino clover is the giant, productive type of white clover. It is best suited for rotation pastures on fertile soils where moisture is plentiful. It is particularly good for hog and poultry pastures. Because of its bloat potential, ladino clover must be used with caution for grazing sheep and cattle.

Merit—Synthetic variety developed by the Iowa State University Agricultural Experiment Station from certified seed stocks of California and Oregon ladino. Merit is superior in winter hardiness, summer drought tolerance, and forage yield.

Birdsfoot Trefoil

Birdsfoot trefoil is a deep-rooted, winter-hardy, perennial legume especially useful in permanent and long rotation pastures. Gaining popularity in southern Iowa it increases productivity of bluegrass pastures. Also used in rotation pastures with orchardgrass and bromegrass.

Empire — Semi-prostrate in growing habit and winter-hardy in most of Iowa. Will withstand continuous grazing much better than upright-type varieties.

Dawn — Missouri variety developed from Empire. Selected for resistance to crown rot. Yield is equal or superior to Empire.

New Varieties—Several new synthetic varieties are being developed for greater seedling vigor, winter hardiness, high yield of forage and crown rot resistance. Introductions from Russia have provided promising material. Further evaluation is necessary before any of these will be available.

Bromegrass

Bromegrass is a widely adapted, hardy grass for good soils. Does well when grown with a legume, especially alfalfa. Stands without legumes can be stepped up considerably in seed and forage production by applying 60 to 120 pounds of nitrogen per acre.

Adapted varieties—all similar in performance—are:

Achenback, Fischer, Lincoln and Southland—These widely grown southern types are tall, leafy, and good seed producers under proper management. Southland tends to be superior in spring vigor.

Baylor and Blair—Two new varieties that have yielded well in recent tests.

Orchardgrass

Orchardgrass is an adapted vigorous grass. Easy to establish, it is best suited for pasture because of rapid recovery after grazing or mowing. It persists under a wide range of conditions, and, with good management, is high in palatability and nutritive value.

Sterling—A mid-early variety; superior in forage and seed production and in winterhardiness, drought tolerance, and ease of stand establishment.

Dayton and Napier—Two new varieties similar to Sterling in winter hardiness and forage yield. Dayton heads about the same time as Sterling; Napier heads a day or two later. Both varieties are somewhat more resistant to leaf diseases than Sterling with Dayton being the most resistant.

Potomac—A mid-early variety similar to common orchardgrass in performance; good in aftermath recovery and improved resistance to rust; less winter-hardy than Sterling.

Common—Seed from mid-Atlantic or southern Corn Belt states is good in general performance, mid-early in heading.

Frode—A medium-late variety that is lower in forage yield and markedly less winter-hardy than Sterling. Because of its later maturity, Frode was higher in protein percentage and digestibility than Sterling when both varieties were harvested at the same time in early June.

Danish—Seed imported from Denmark is poor in winter hardiness, medium in maturity and low in forage yield.

Reed Canarygrass

Reed canarygrass is an adapted, vigorous highly productive grass. Does well on poorly drained soils and yet tolerates both heat and drought. Best suited for pasture because of rapid recovery after grazing.

Sudangrass; Sorghum X Sudan Crosses

Sudangrass and sorghum - sudangrass crosses can provide summer forage. As warm season grasses, they grow rapidly under adequate soil moisture and fertility conditions during June, July and August. These annual grasses can complement cool season perennial grasses which often decline in productivity in mid-summer. They can be used for pasture, green chop, hay or silage. However, they appear to be best suited for pasture or green chop.

Piper—Early, rapid in growth and recovery after grazing or cutting; moderately disease resistant and high in yield; low in prussic acid content; well suited for pasture.

There are many sorghum-sudangrass hybrid varieties on the market. They are generally intermediate between sorghum and sudangrass in tillering ability and coarseness. They vary widely in maturity; most of them mature later than Piper Sudangrass. They are more resistant to *Helminthosporium* leaf blight than older varieties of sudangrass. This disease can reduce yield and quality of forage in late summer.

Sorghum-sudangrass hybrids outyield Piper Sudangrass when they are cut once at the seed ripening stage. However, when cut to simulate rotational grazing, they have not shown a consistent yield advantage over Piper. These hybrids usually have a higher prussic acid potential than Piper.

To minimize the danger of prussic acid poisoning use a variety low in prussic acid potential. Avoid grazing until the stand is 25 inches or more high. Maintain a good fertility balance in the soil and avoid grazing young shoots or stands stunted by drought. After a frost, wait until the frosted growth has dried out completely before grazing.

Forage Sorghums

Numerous forage sorghum varieties are available. They vary in maturity, height, standability, leafiness, percent grain, forage yield, and nutritive value. Although best suited for silage, forage sorghums can be stockpiled for late fall or winter pasture.

Since forage sorghums are generally higher in prussic acid potential than sorghum x sudangrass hybrids or sudangrasses, they may not be safe for pasture, green chop or silage until after heading. Consider using a male sterile hybrid to avoid a problem with volunteers in subsequent years. Although the better forage sorghum varieties will usually outyield corn for silage, the feeding value is 5 to 10 percent lower.